

REMARKS/ARGUMENTS

Claims 1-25 and 49-70 are pending in this application. No claims have been amended. No new matter has been added.

Claims 20 and 22-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent 5,866,949 to Schueller ("Schueller") in view of U.S. patent 5,985,695 to Freyman ("Freyman") and U.S. patent 5,663,594 to Kimura ("Kimura").

Claims 1-2, 4, 6-10, 12-19, 49-59, and 61 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Schueller in view of U.S. patent 5,866,949 to Zenner ("Zenner") and Freyman.

Claims 21 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Schueller, Freyman, and Kimura in view of admitted prior art ("APA").

Claims 25 and 62-69 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Schueller in view of Zenner, APA, and Freyman.

Claims 3, 5, 11, 60, and 70 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Schueller, Zenner, and Freyman, and further in view of APA.

Reconsideration and allowance of the claims is respectfully requested in light of the following remarks.

35 U.S.C. § 103(a)

The features of the present invention as recited in the claims are not made obvious by the cited references. For example, a concept of "a first edge of the transition medium is coincident with a first edge of the [integrated circuit/silicon] die, and a second edge of the transition medium is coincident with a second edge of the [integrated circuit/silicon] die," which is recited in each of the independent claims, is not shown or suggested by Schueller, Freyman, Zenner, Kimura, or APA, considered individually or in combination. The examiner relies on Freyman to show this concept, which it does not. Accordingly, the combination of cited references provides no teaching or suggestion of this feature. Moreover, Schueller teaches away from the invention, and is discussed further below.

NO TEACHING OR SUGGESTION

The examiner admits that Schueller fails to teach "a first and a second edge of the transition medium being coincident with those of the die respectively." (Office Action: pp. 3, 6, 12, 18, 20, 24, and 27.) And, Freyman does not cure this deficiency. The examiner states, "Freyman et al. teach[es] a BGA package (Fig. 7) having dimensions of a flexible substrate, an adhesive medium/transition and a die (201, 703 and 41 respectively in Fig. 7) such that a first and a second edge of the adhesive medium/transition medium are coincident with those of the die (see 703 and 41 respectively in Fig. 7; Col. 9, lines 1-5)." (Office Action: p. 9.) Applicants respectfully disagree with the examiner. Freyman's adhesive 703 is not a transition medium as claimed.

This fact becomes clear when scrutinized against, for example, claim 25. The integrated package of claim 25 comprises a first adhesive layer, transition medium, and a second adhesive layer. Even if one were to read Freyman's adhesive 703 on the transition medium, which one should not because there is no support for this, Freyman would fall short because it would not have either the first adhesive layer or the second adhesive layer. Alternatively, if one were to read Freyman's adhesive 703 on the first adhesive layer, Freyman would again short because it would not have either the transition medium or the second adhesive layer. Clearly, Freyman and the cited references do not show or suggest each and every limitation of the claim, and this claim should be allowable.

Further, any attempt to analogize Freyman to the present invention fails after consideration of the features of a transition medium as recited in numerous independent and dependent claims. For example, with respect to claim 4 recites "a mold compound material, a BT resin compound, a FR-4 resin compound, or a FR-5 resin compound," and adhesive 703 in Freyman does not show or suggest this. Moreover, Freyman does not show or suggest a transition medium having two coincident edges with a die. Nowhere does Schueller nor Freyman, individually or in combination, suggest this feature. This claim should be allowable.

Similarly, each claim 5, 23, 60, 65, 66, 68, and 69 recites feature not shown or suggested by Schueller or Freyman, or both in combination. Therefore, these claims should be allowable.

SCHUELLER TEACHES AWAY

Moreover, the claims should be allowable also because Schueller teaches away from the present invention. The present claims recite "a first edge of the transition medium is coincident with a first edge" of the integrated circuit or silicon] die and "a second edge of the transition medium is coincident with a second edge" of the integrated circuit or silicon] die. Scheuller teaches the opposite of the invention. More specifically, in figure 3B, Scheller provides wire bonds 82b connecting die 52 to metal sheet 53 (which in the office action, the examiner analogizes to a transition region). Clearly, edges of metal sheet 53 extend further out than die 52 to allow wire bonds 82b. Schueller teaches away from coincident edges or else wire bonds 82b would not be able to make connections to metal sheet 53.

Accordingly, for at least the above reasons, all pending claims should be allowed.

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Examining Group 2811

PATENT

CONCLUSION

In view of the foregoing, applicants believe all claims now pending in this application are in condition for allowance and an action to that end is respectfully requested.

If the examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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